

Designation	Species	Epitope	Western Blot	IHC	FACS	Epitope sequence
29C11	rabbit	Pro2	Yes	yes**	n.d.	IDELKEFLNQTDETLSWE
31A5	rabbit	Pro3	Yes	yes**	yes	ELLQEFIDDNATTNAIDELK
6A1	rabbit	Pro2-3	Yes	n.d.	no	TTNAIDELKECFLNQ
14A12	rabbit	Pro3	Yes	n.d.	yes	ELLQEFIDDNATTNAIDELK
6B12	rabbit	Pro3	Yes	n.d.	yes	ELLQEFIDDNATTNAIDELK
2D3	rabbit	Pro5	Yes	n.d.	yes	SQHCYAGSGGCPLENVISKTI
16D8	rabbit	Pro3	Yes	n.d.	yes	ELLQEFIDDNATTNAIDELK
31-1H7	mouse	n.d.	Yes	n.d.	yes	SQHCYAGSGGCPLENVISKTI
197-1H11	mouse	Pro5	Yes	n.d.	no	
32-1G11	mouse	n.d.	Yes	n.d.	yes	
304-1A5	mouse	n.d.	Yes	n.d.	yes	
98-1F4	mouse	n.d.	Yes	n.d.	no	

Fig. 1A

pc.h.mam.6a1.cell-57.579.1.t7

CACCATGGAGACAGGCCTGCGCTGGCTTCTCCTGGTCGCTGTGCTCAAAGGTGTCCAGTGTCA
GTCGCTGGAGGAGTCCGGCGGTGCGCTGGTAACGCCTGGAGGATCCCTGACACTCACCTGCAC
AGTCTCTGGAATCGACCTCAGTAGCTATGGAGTGGGTGGGTCCGCCAGGCTCCAGGGAAGG
GGCTGGAATACATCGGAATCATTAGTAAAATTGATAACACATACTACGCGAAGTGGGCGAAA
GGCCGATTACCATCTCCAAAACCTCGTCGACCACGGTGGATCTGAAAATGACCAGTCTGACA
ACCGAGGACACGGCCACCTATTTCTGTACCAGAGGCTCTTTTGATCCCTGGGGCCAGGCACC
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pc.h.mam.16d8.cell-22.394.1.t7

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GCTGGAATGGATCGGAACCATTAGTACTATTGGTAGCCCATTTTACGCGAGCTGGGCGAGAGG
CCGATTACCATCTCCAAAACCTCGACCACGGTGGATCTGAAAATCACCAATCCGACAACCGA
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pc.h.mam.16d8.cell-21.393.2.t7

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GCTGGAATGGATCGGAACCATTAGTACTATTGGTAGCCCATTTTACGCGACCTGGGCGAGAGG
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GACTGGAATGGATCGGAACCATTAGTACTCTTGGTACCCCTTTTCCGCCAATTGGGCGAGAG
GCCGATTACCATCTCCAAGACCTCGACCACGGTGGATCTGAAAATCGCCAGTCCGACGACCG
AAGACACTGCCACATATTTTGTGGCAGATTGCGGATTGCTCATGATGGTGCCTTCTGGGGCC
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Fig. 1B

pc.h.mam.2d3.cell-65.576.1.t7

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CACAGTGTCTGGAATCGACCTCAATATCGATGCAATGAGCTGGGTCGCGCAGGCTCCAGGGA
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CGTCTCTGGATTCTCCCTCAGCAGCGTCGACATGACCTGGGTCGCGCAGGCTCCAGGGAAGGG
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CATTTCCAAAACCTTGACCACCGTGGATTTGAAAATCACCAGTCCGACAACCGAGGACACGG
CCAAGTATTTTGTGGCAGATTTCCGATTGCTGGTATGGTGTCTTTGGGGCCCGGGCAGGCT
GGTCACCGTNTCCTCAGGGCAACCTAA

Fig. 1C

Pro-1	MKLLMWLMLAALSQHCYAGSGCP	LENNISK	TINPQVSKTEYKELLQEF	IDDNATTNAIDEL	KECF	LNQTD	ETLSNVEVF	<u>FMQLIYDSS</u>	<u>LCDLF</u>
Pro-2	MKLLMWLMLAALSQHCYAGSGCP	LENNISK	TINPQVSKTEYKELLQEF	IDDNATTNAIDEL	KECF	LNQTD	ETLSNVEVF	<u>FMQLIYDSS</u>	<u>LCDLF</u>
Pro-3	MKLLMWLMLAALSQHCYAGSGCP	LENNISK	TINPQVSKTEYKELLQEF	IDDNATTNAIDEL	KECF	LNQTD	ETLSNVEVF	<u>FMQLIYDSS</u>	<u>LCDLF</u>
Pro-4	MKLLMWLMLAALSQHCYAGSGCP	LENNISK	TINPQVSKTEYKELLQEF	IDDNATTNAIDEL	KECF	LNQTD	ETLSNVEVF	<u>FMQLIYDSS</u>	<u>LCDLF</u>
Pro-5	MKLLMWLMLAALSQHCYAGSGCP	LENNISK	TINPQVSKTEYKELLQEF	IDDNATTNAIDEL	KECF	LNQTD	ETLSNVEVF	<u>FMQLIYDSS</u>	<u>LCDLF</u>
Pro-7	MKLLMWLMLAALSQHCYAGSGCP	LENNISK	TINPQVSKTEYKELLQEF	IDDNATTNAIDEL	KECF	LNQTD	ETLSNVEVF	<u>FMQLIYDSS</u>	<u>LCDLF</u>
Pro-8	MKLLMWLMLAALSQHCYAGSGCP	LENNISK	TINPQVSKTEYKELLQEF	IDDNATTNAIDEL	KECF	LNQTD	ETLSNVEVF	<u>FMQLIYDSS</u>	<u>LCDLF</u>
Pro-9	MKLLMWLMLAALSQHCYAGSGCP	LENNISK	TINPQVSKTEYKELLQEF	IDDNATTNAIDEL	KECF	LNQTD	ETLSNVEVF	<u>FMQLIYDSS</u>	<u>LCDLF</u>
Glob-2	MKLLMWLMLAALSQHCYAGSGCP	LENNISK	TINPQVSKTEYKELLQEF	IDDNATTNAIDEL	KECF	LNQTD	ETLSNVEVF	<u>FMQLIYDSS</u>	<u>LCDLF</u>
Pro-20	MKLLMWLMLAALSQHCYAGSGCP	LENNISK	TINPQVSKTEYKELLQEF	IDDNATTNAIDEL	KECF	LNQTD	ETLSNVEVF	<u>FMQLIYDSS</u>	<u>LCDLF</u>
N-termina1 recombinant	GSQMKETAAKFERQH	WSDPDLGTDDDDKAWA	ISDPNS.....	HCYAGSGCP	LENNISK				
	Peptide with Enterokinase and Thrombin cleavage sites Mammaglobin sequence								

Fig. 2

Reactivity of Mouse Monoclonal antibodies to Mammaglobin with peptides and recombinants										
Antibody	Pro2	Pro-3	Pro-4	Pro-5	Pro-6	Pro-7	Pro-8	Glob-2	amma+Tlnal	TRX
31-1H7	0.065	0.059	0.059	0.061	0.06	0.066	0.07	0.063	2.788	0.074
32-1G11	0.056	0.055	0.054	0.054	0.055	0.057	0.055	0.055	2.75	0.057
197-1H11	0.055	0.054	0.053	1.139	0.054	0.055	0.055	0.055	2.502	2.596
304-1A5	0.054	0.054	0.053	0.053	0.054	0.053	0.053	0.054	2.7	0.056
98-1F4	0.068	0.055	0.053	0.055	0.059	0.064	0.11	0.112	2.819	0.118
967	0.055	0.057	0.056	0.056	0.055	0.62	0.056	0.637	1.566	0.069
Blank	0.056	0.055	0.053	0.055	0.052	0.053	0.053	0.053	0.056	0.052
										0.116
										0.07
										0.064
										0.064
										0.121
										0.159
										0.06

Fig. 3A

Mammaglobin rabbit monoclonal 6B12

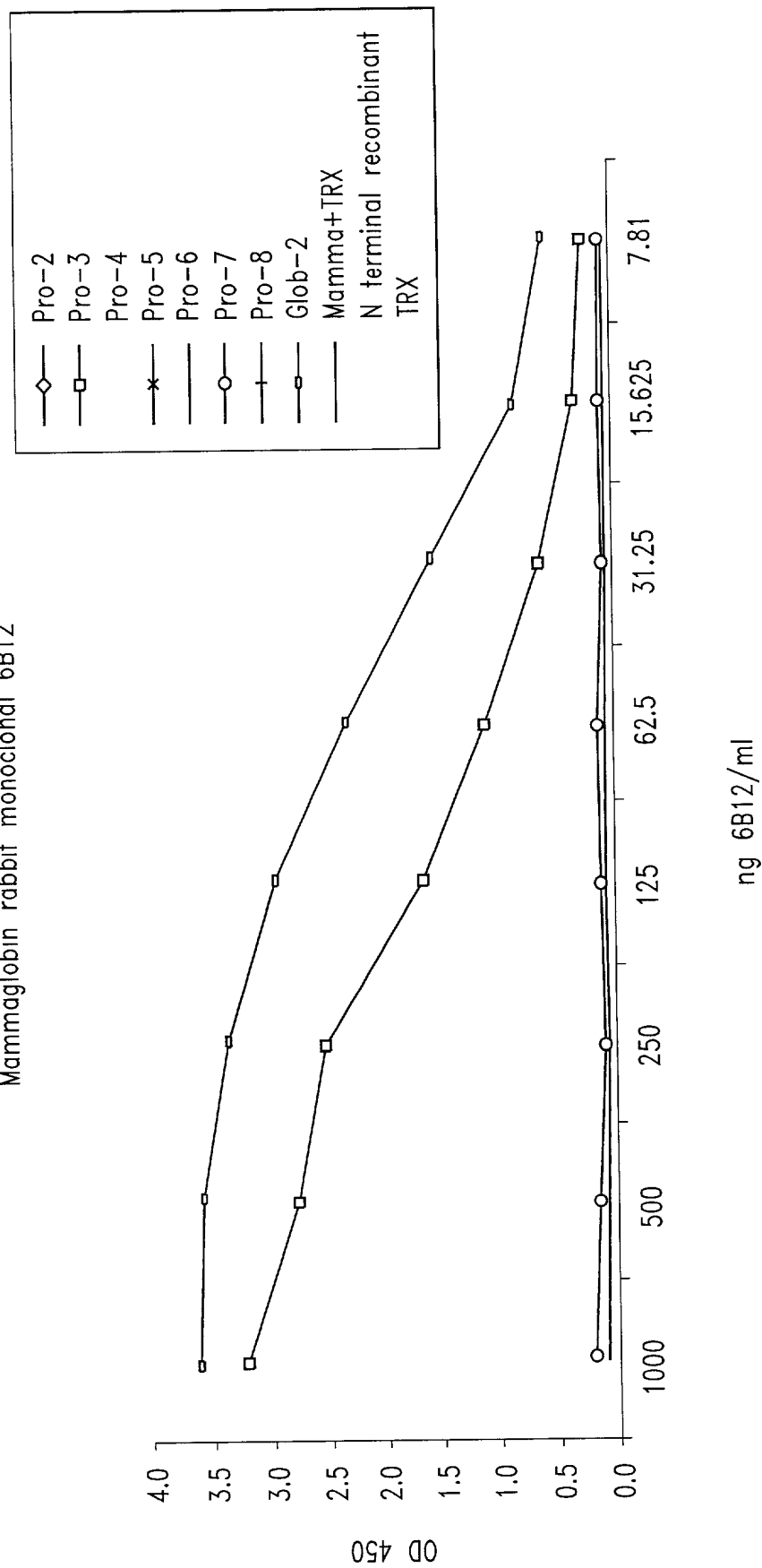


Fig. 3B

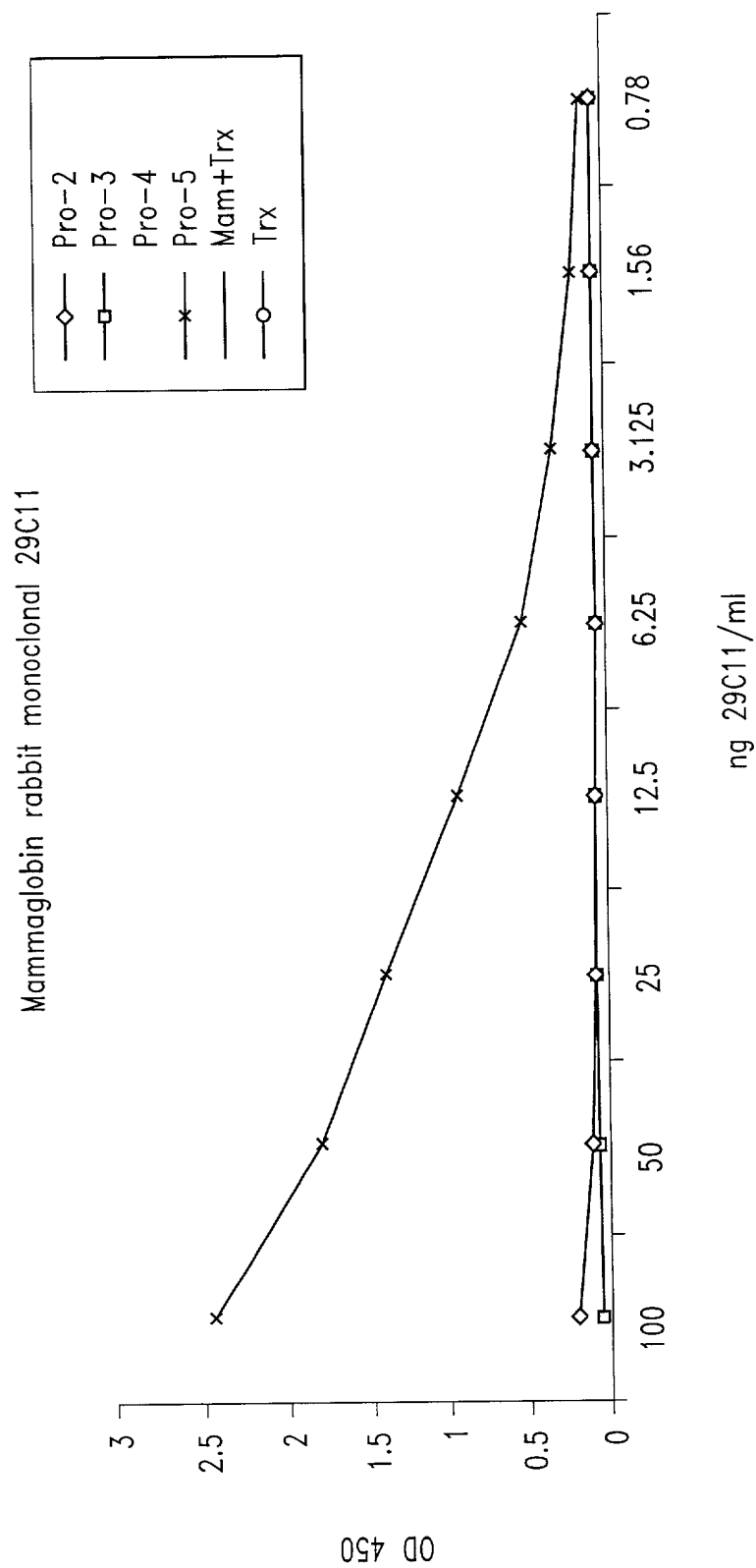


Fig. 3C

Mammaglobin rabbit monoclonal 2D3

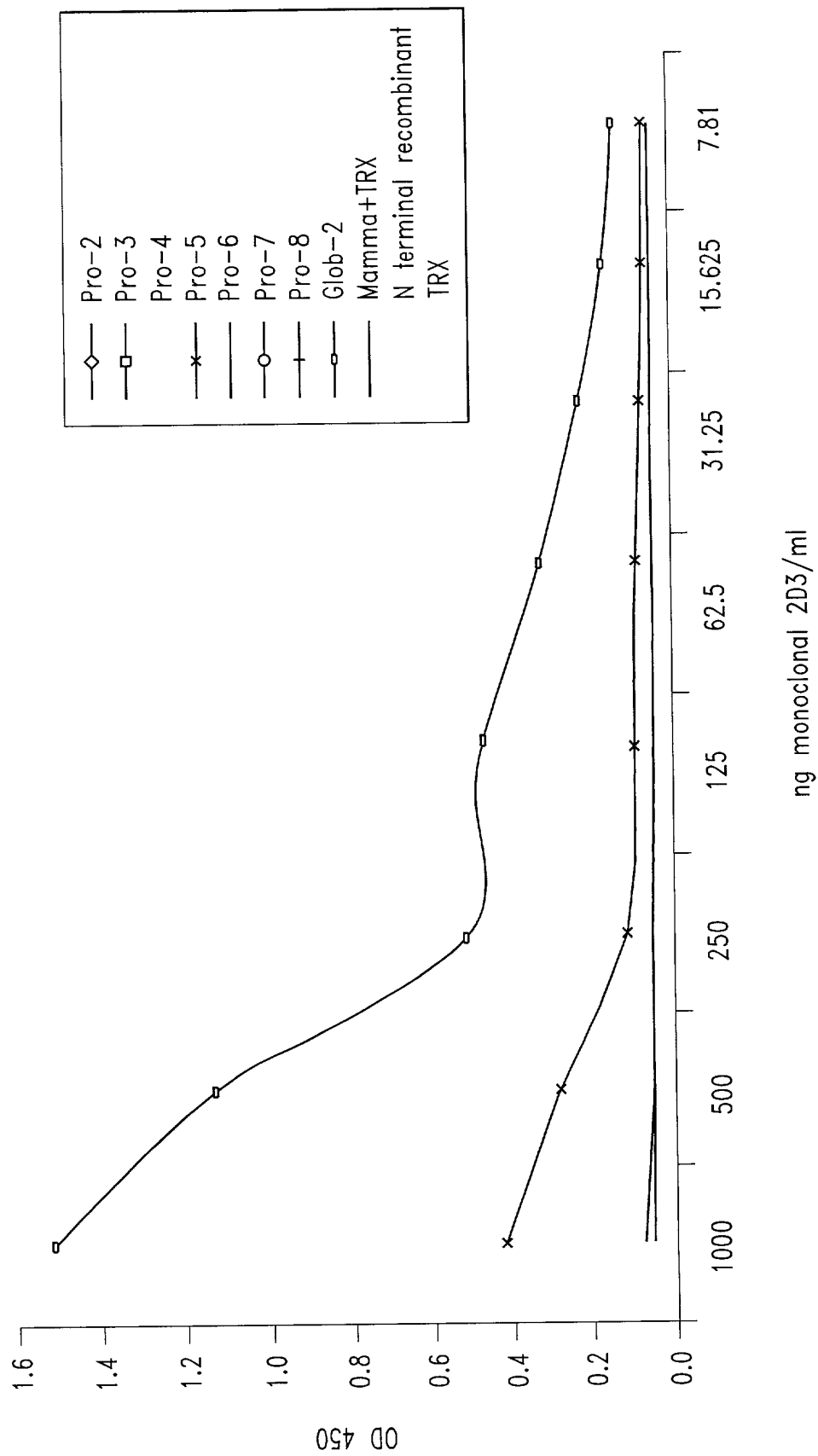


Fig. 3D

Staining of permeabilized human breast tumor cell line MDA-MB415 with rabbit anti-mammaglobin monoclonal antibodies

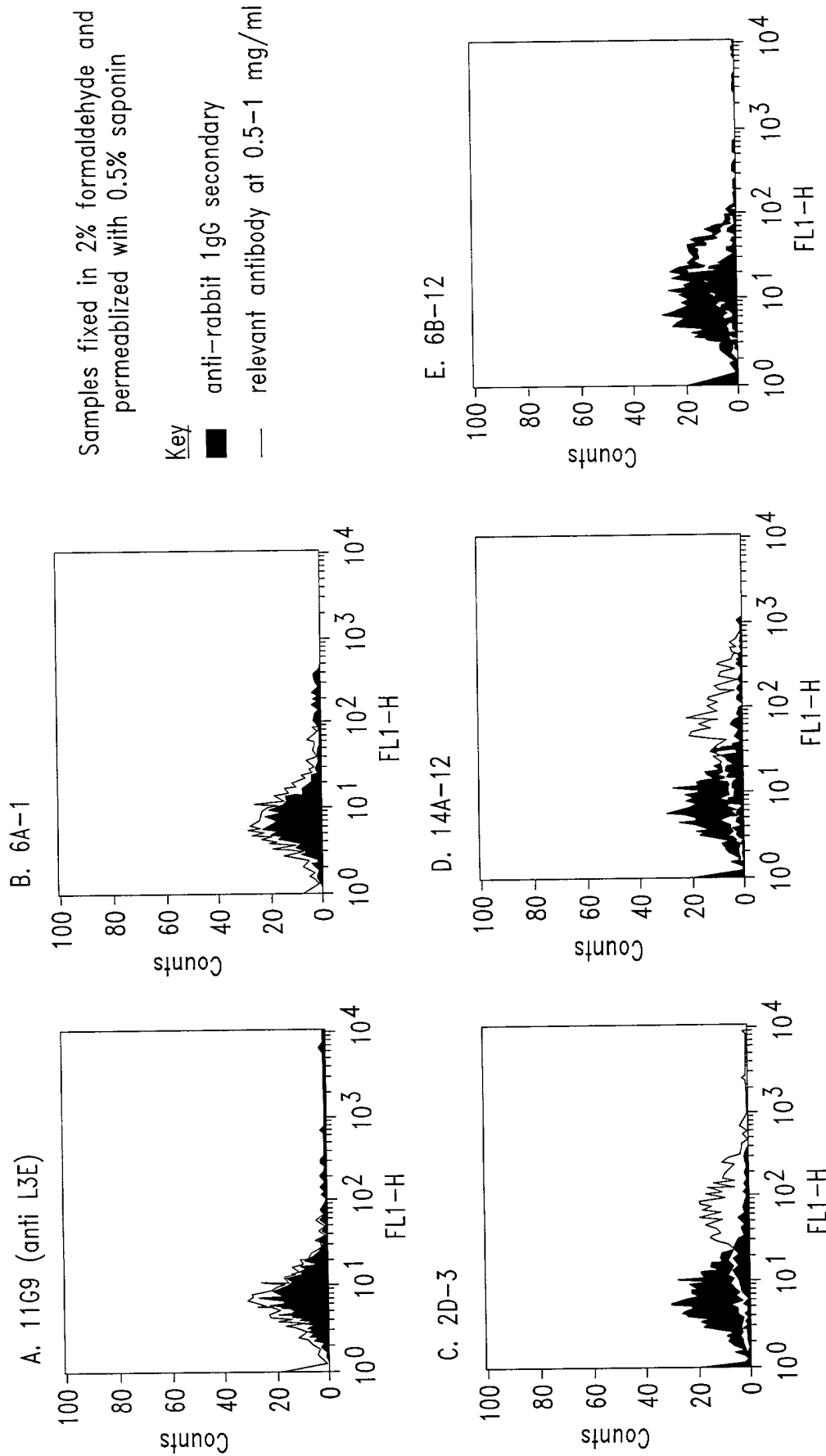


Fig. 4A

Staining of permeabilized human breast tumor cell lines
with murine anti-mammaglobin monoclonal antibodies

Key

- Secondary alone
- Primary at 1:10

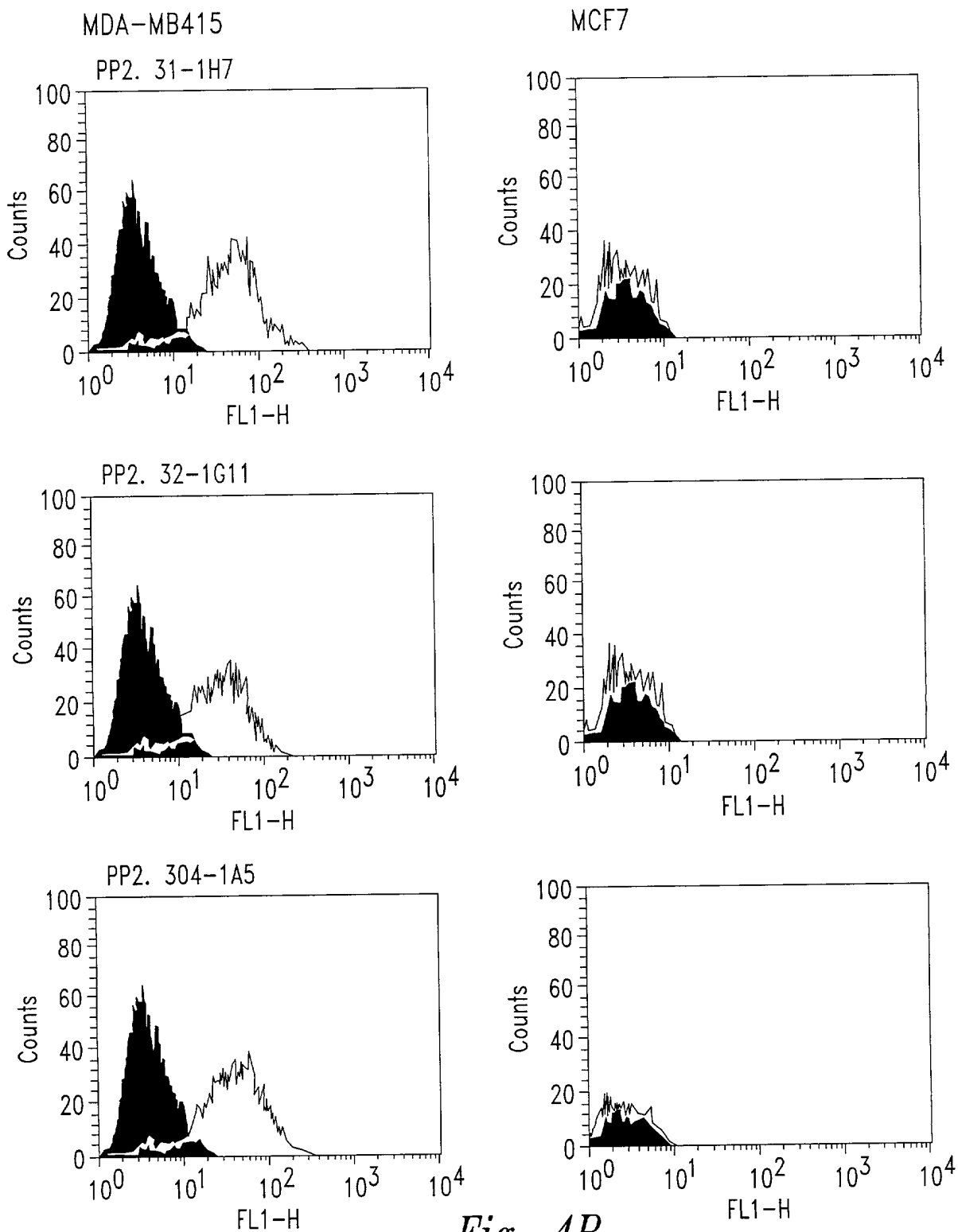
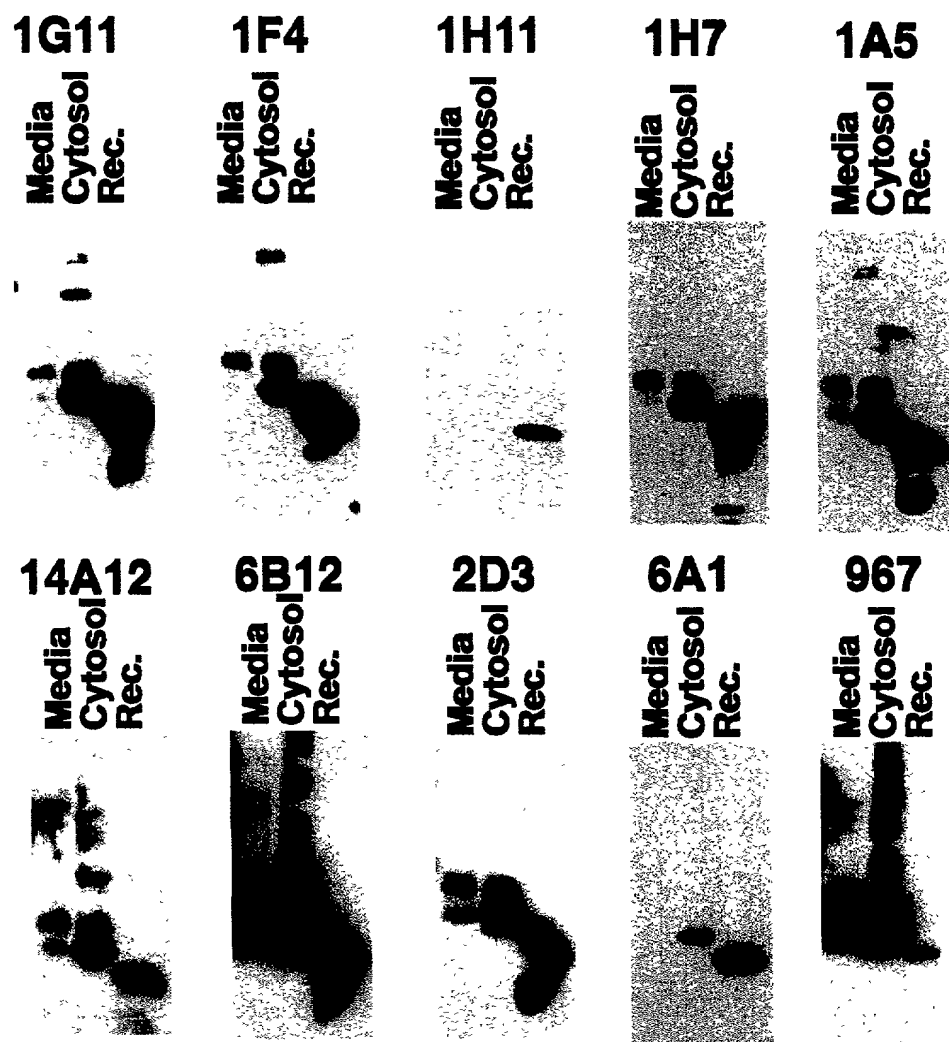


Fig. 4B

Western blot analysis of Mammaglobin from MB415 cells



Mouse monoclonal: 1G11, 1F4, 1H11, 1H7, 1A5
 Rabbit monoclonal: 14A12, 6B12, 2D3, 6A1
 Rabbit polyclonal: 967

Rec.: bacterially expressed recombinant mammaglobin

Fig. 5

IHC analysis of mammaglobin expression in normal tissue.

Normal Tissue	Mam-29C11/31A5
Breast	3-
Adrenal	0
Cervix	0
Colon	0
Duodenum	0
Gall bladder	0
Ileum	0
Kidney	0
Ovary	0
Pancreas	0
Paroud gland	0
Prostate	0
Skeletal muscle	0
Spleen	0
Testis	0

Fig. 6

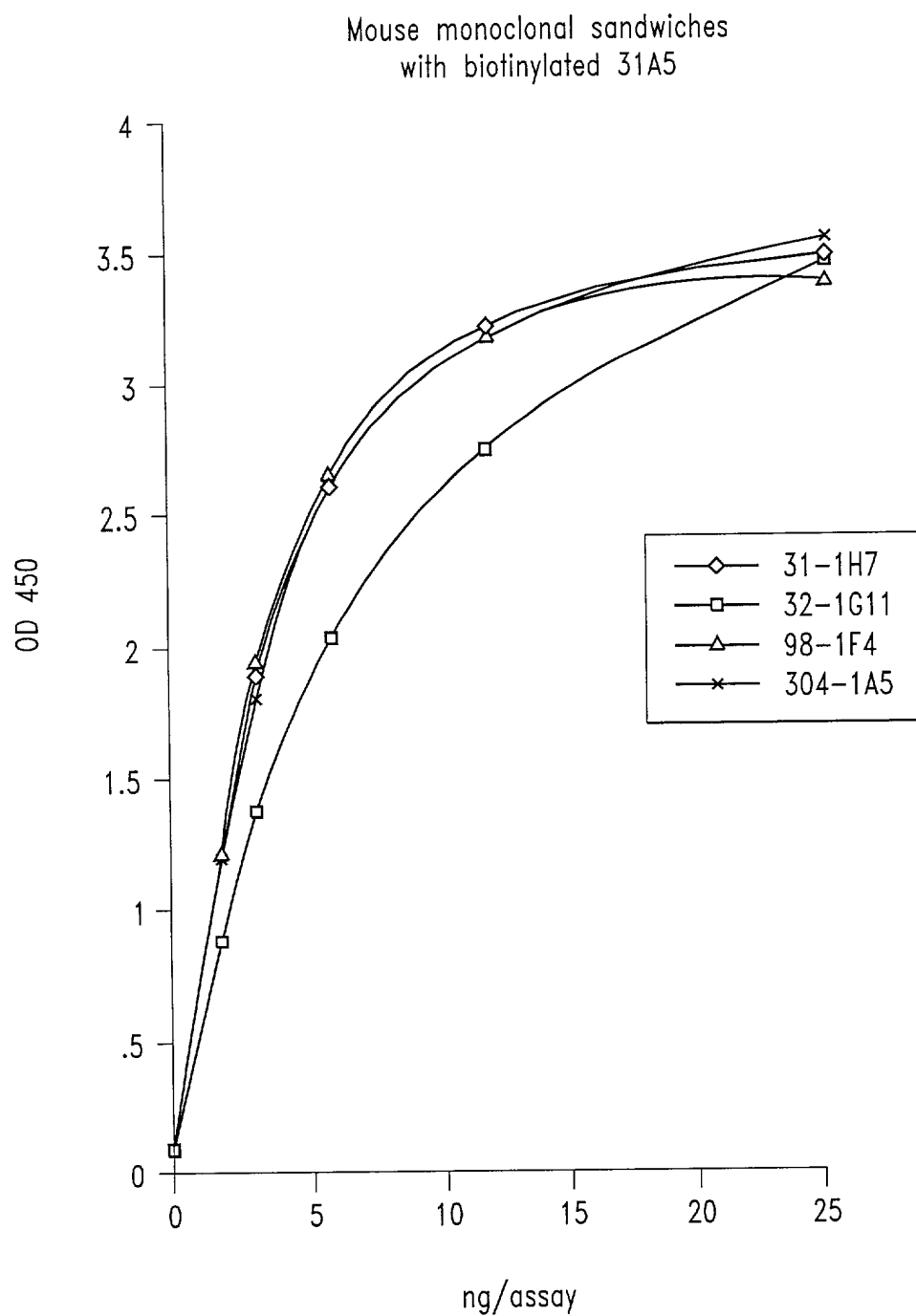


Fig. 7A

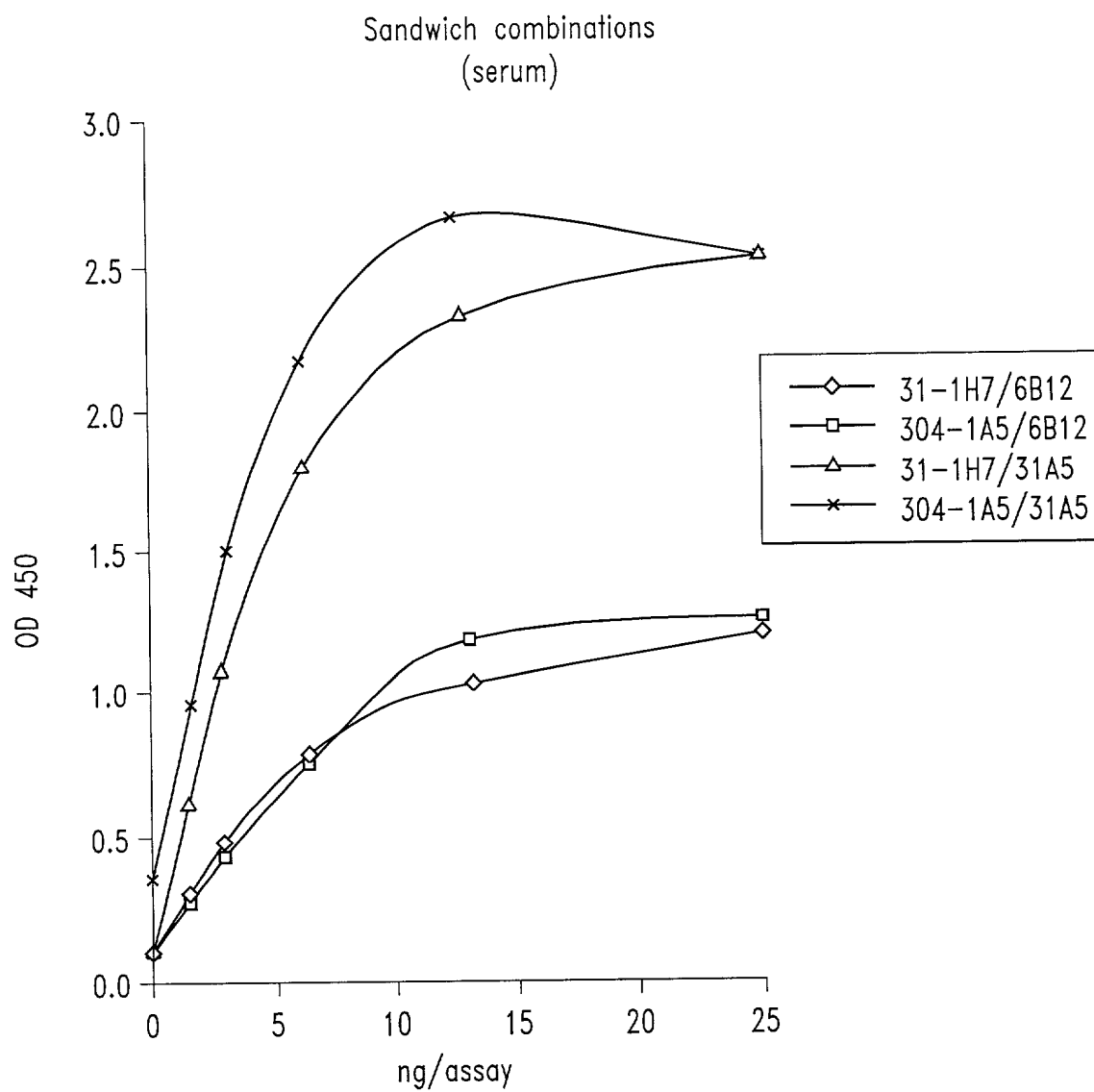


Fig. 7B

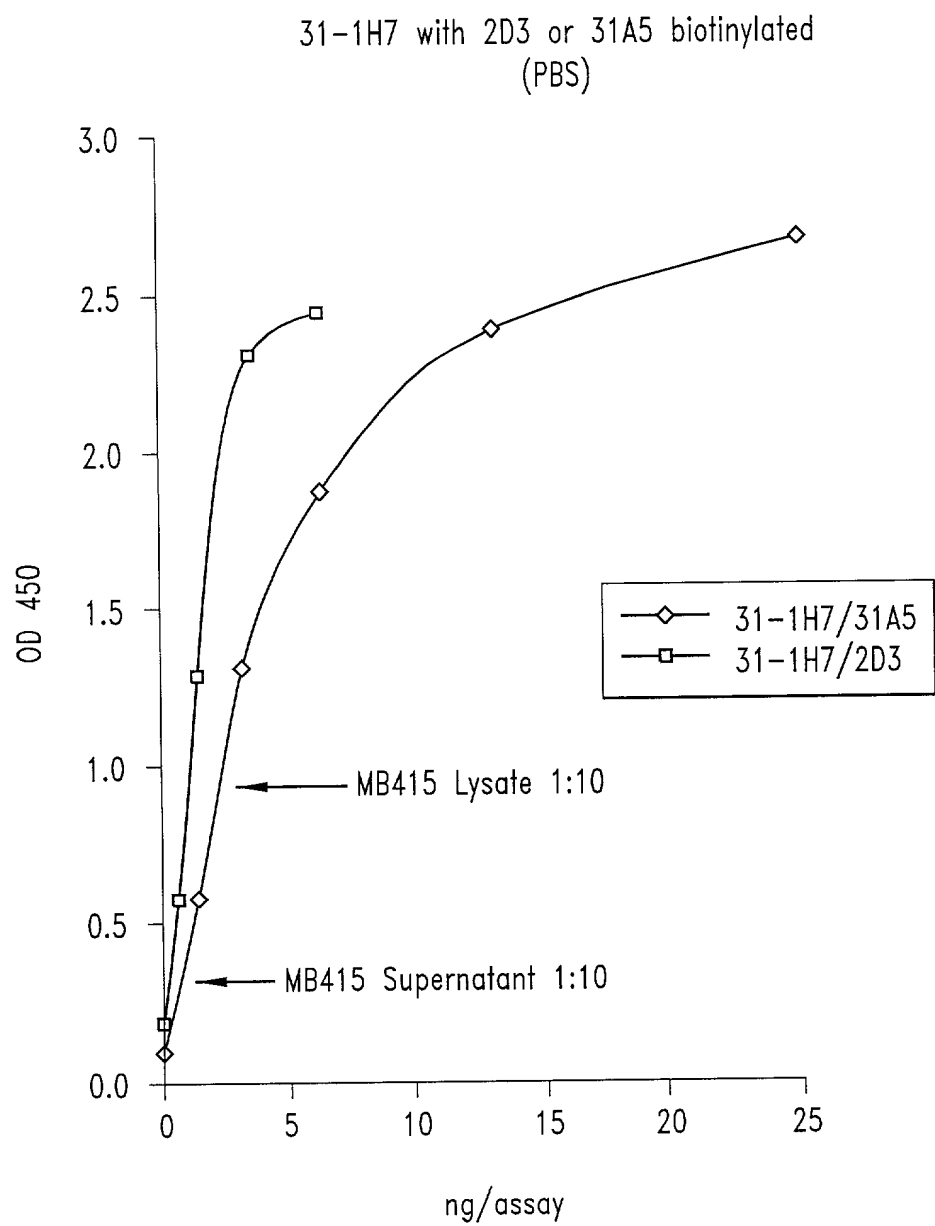


Fig. 7C

A scatter plot showing the relationship between OD 450 (Y-axis) and pg/assay (X-axis). The Y-axis ranges from 0 to 0.8 with increments of 0.1. The X-axis ranges from 0 to 100 with increments of 20. Five data points are plotted, and a linear regression line is fitted to them. The equation of the line is $y = 0.0087x + 0.0553$.

pg/assay	OD 450
0	0.08
10	0.14
25	0.23
75	0.75
75	0.76

Fig. 8

Detection of mmamglobin in sera

Serum #	Status	Western	Sandwich ELISA 2D3 mAb capture, 29C11 secondary	Sandwich ELISA 967 Ab capture, 2D3 mAb secondary	MRNA in blood*
			Mammaglobin [pg/ml]	Mammaglobin [pg/ml]**	
6 (aka 3534)	BrCA	+	4980-9600	8732	not tested
3	BrCA	nd	560-1245	2392	+
4	BrCA	nd	311-622	1443	+
12	BrCA	nd	311-622	2298	weakly +
17	BrCA	nd	149-311	1498	+
11	BrCA	nd	149-311	847	+
10	BrCA	nd	74-149	356	nd
1	Normal F	nd	38-74	2333	not tested
18	Normal M	nd	38-74	636	not tested
8	BrCA	nd	38-74	284	nd
9	Normal F	nd	38-74	188	not tested
5	Normal F	nd	<33	43	not tested
2	Normal F	nd	<33	149	not tested
7	Normal F	nd	<33	96	not tested
14	Normal F	nd	<17	18	not tested
16	Normal F	nd	<17	363	not tested
13	Normal F	nd	<17	443	not tested
15	Normal F	nd	xxx	10.8	not tested

Fig. 9

1a MKLLMVLMLAALSQHCYAGSGCPLENVISK^TINPQVSKTEYKELLQEFIDDNATTNAIDELKECFLNQTD^TETLSNVEVFMQLIYDSSLCDLF

2a MKLLMVLMLAALSQHCYAGSGCPLENVISK^TINPQVSKTEYKELLQEFIDDNATTNAIDELKECFLNQTD^TETLSNVEVFMQLIYDSSLCDLF

3a MKLLMVLMLAALSQHCYAGSGCPLENVISK^TINPQVSKTEYKELLQEFIDDNATTNAIDELKECFLNQTD^TETLSNVEVFMQLIYDSSLCDLF

4a MKLLMVLMLAALSQHCYAGSGCPLENVISK^TINPQVSKTEYKELLQEFIDDNATTNAIDELKECFLNQTD^TETLSNVEVFMQLIYDSSLCDLF

5a MKLLMVLMLAALSQHCYAGSGCPLENVISK^TINPQVSKTEYKELLQEFIDDNATTNAIDELKECFLNQTD^TETLSNVEVFMQLIYDSSLCDLF

6a MKLLMVLMLAALSQHCYAGSGCPLENVISK^TINPQVSKTEYKELLQEFIDDNATTNAIDELKECFLNQTD^TETLSNVEVFMQLIYDSSLCDLF

7a MKLLMVLMLAALSQHCYAGSGCPLENVISK^TINPQVSKTEYKELLQEFIDDNATTNAIDELKECFLNQTD^TETLSNVEVFMQLIYDSSLCDLF

8a MKLLMVLMLAALSQHCYAGSGCPLENVISK^TINPQVSKTEYKELLQEFIDDNATTNAIDELKECFLNQTD^TETLSNVEVFMQLIYDSSLCDLF

peptide #	AA sequence	AA location within mmgb
1a	MKLLMVLMLAALSQHCYAGS	1-20
2a	ALSQHCYAGSGCPLENVIS	11-30
3a	GCPLLENVISK ^T INPQVSKT	21-40
4a	KTINPQVSKTEYKELLQEFI	31-50
5a	EYKELLQEFIDDNATTNAID	41-60
6a	DDNATTNAIDELKECFLNQTD	51-70
7a	ELKECFLNQTD ^T ETLSNVEVF	61-80
8a	DETLSNVEVFMQLIYDSSLCDLF	71-93

Fig. 10

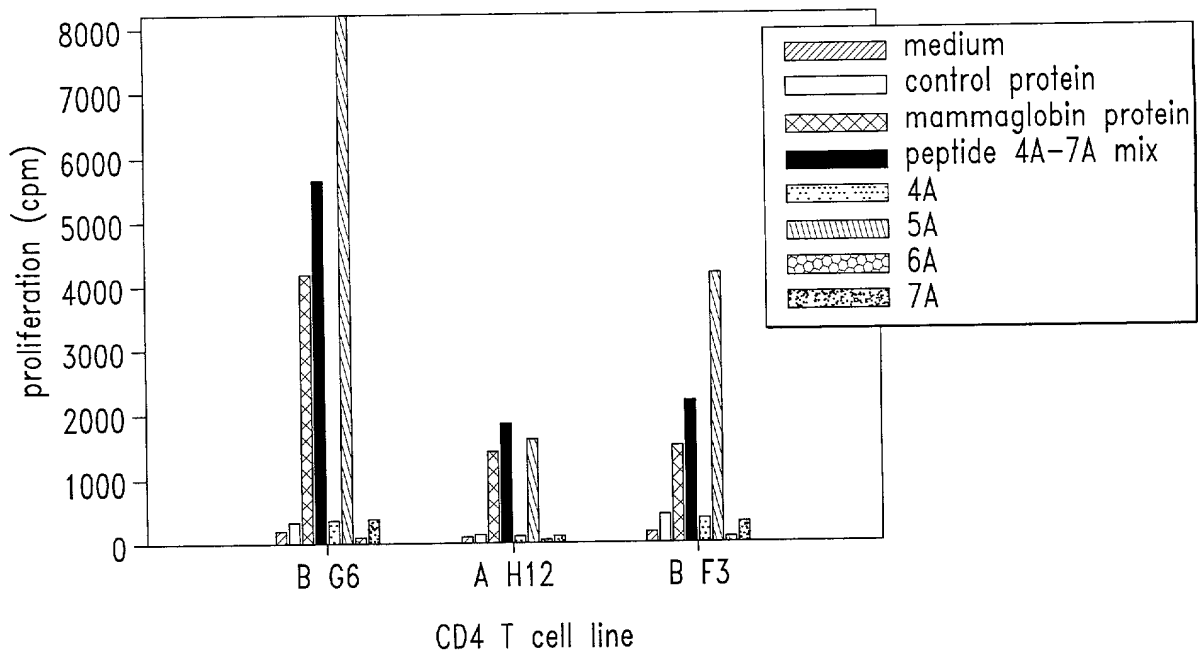


Fig. 11A

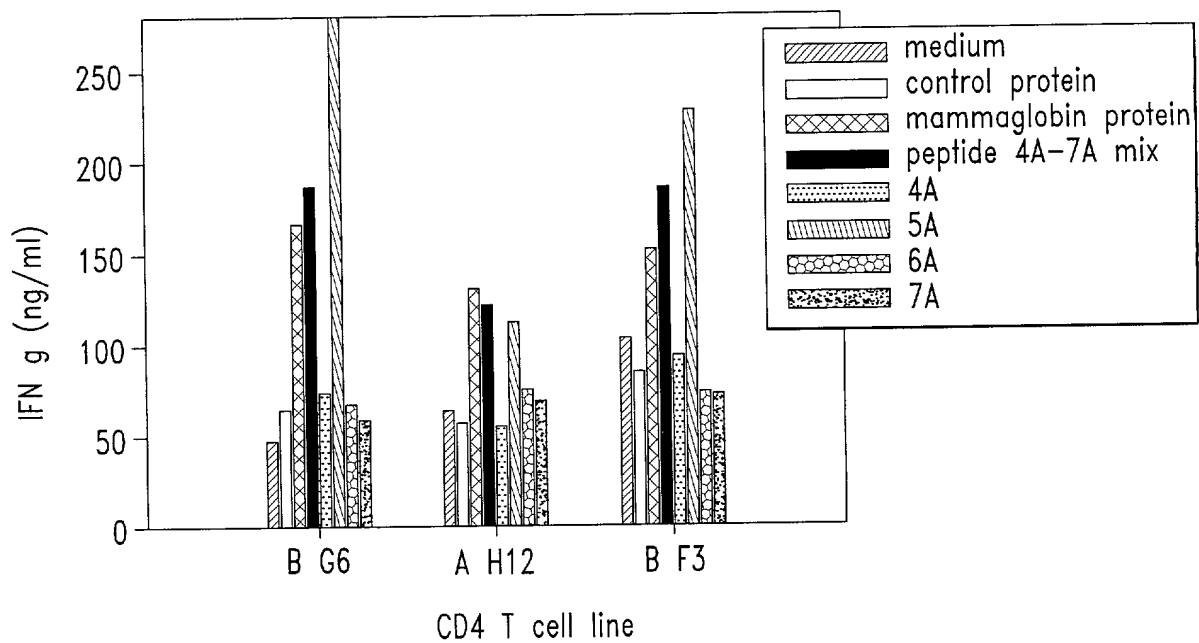


Fig. 11B

MKLLMVLMLAALSQHCYAGSGCPLEENVISKTINPQVSKTEYKELLQEFIDDNATTNAIDELKECFLNQTDETLSNVEVFMQLIYDSSLCDLF

#	Start position	sequence (length)	score
1	2	KLLMVLMLA (9)	148
2	3	LLMVLMLAA (9)	72
3	4	LMVLMLAAL (9)	60
4	66	FLNQTDETL (9)	48
6	83	LIYDsSLCDL (10)	151
7	2	KLLMvLMLAA (10)	148
8	80	FMQLiYDSSL (10)	71
9	58	AIDELKECFL (10)	26
10	45	LLQEFIDDNA (10)	17

Fig. 12

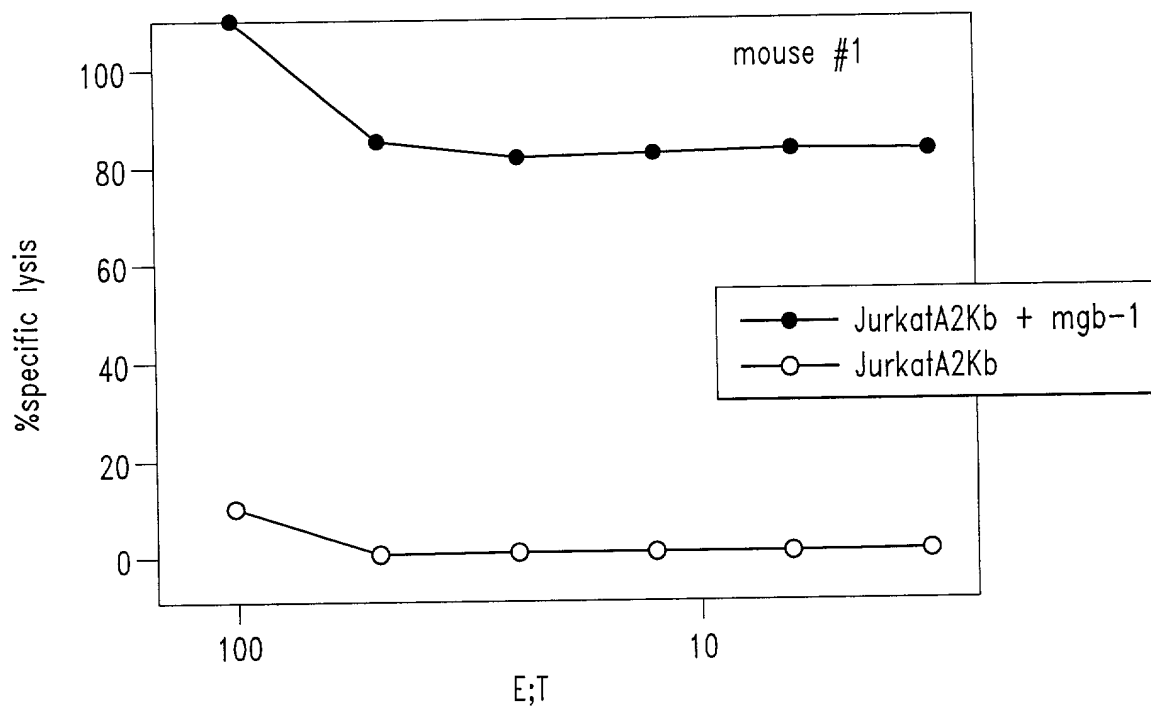


Fig. 13A

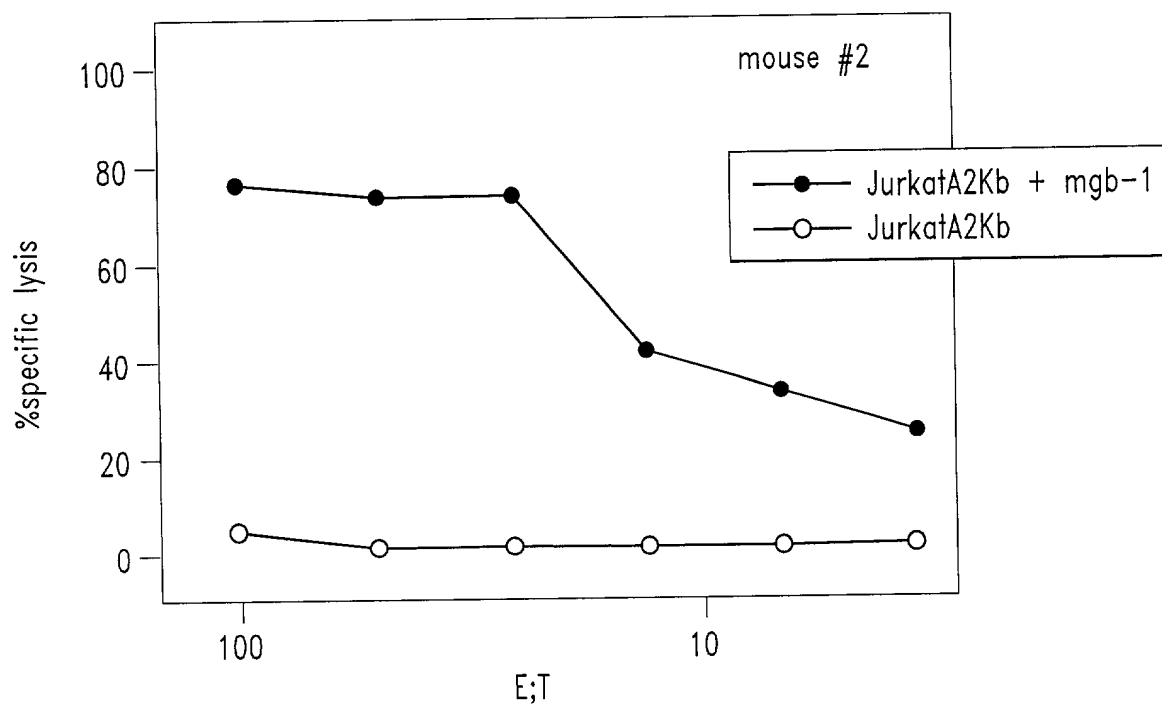


Fig. 13B

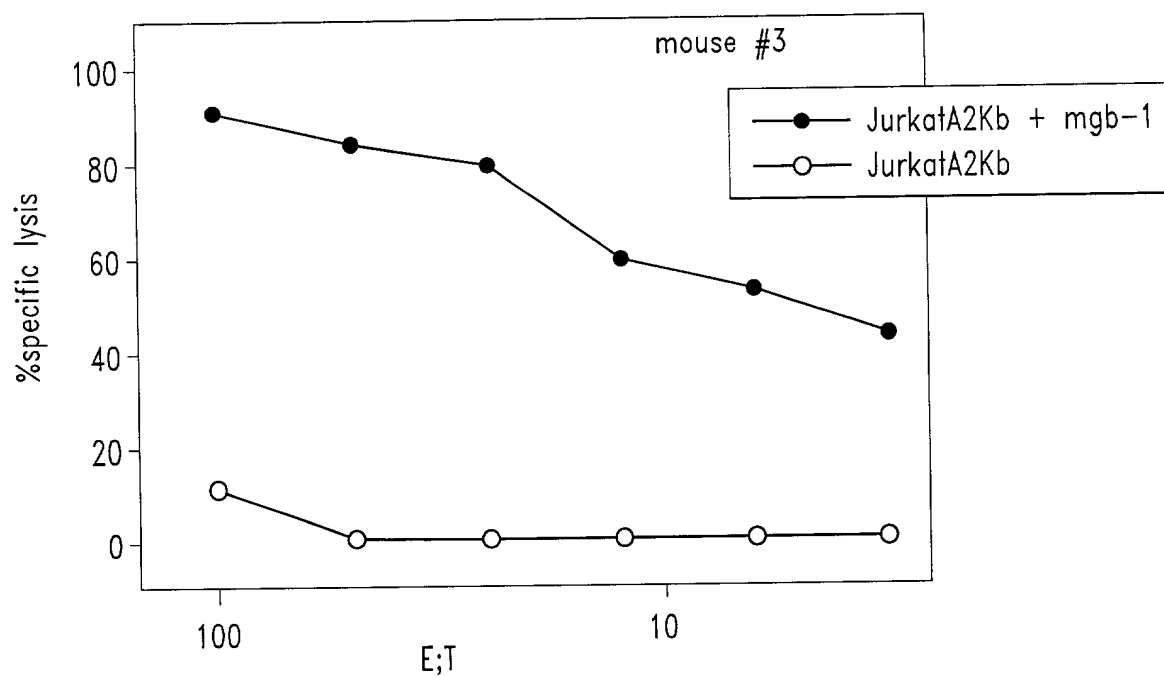


Fig. 13C

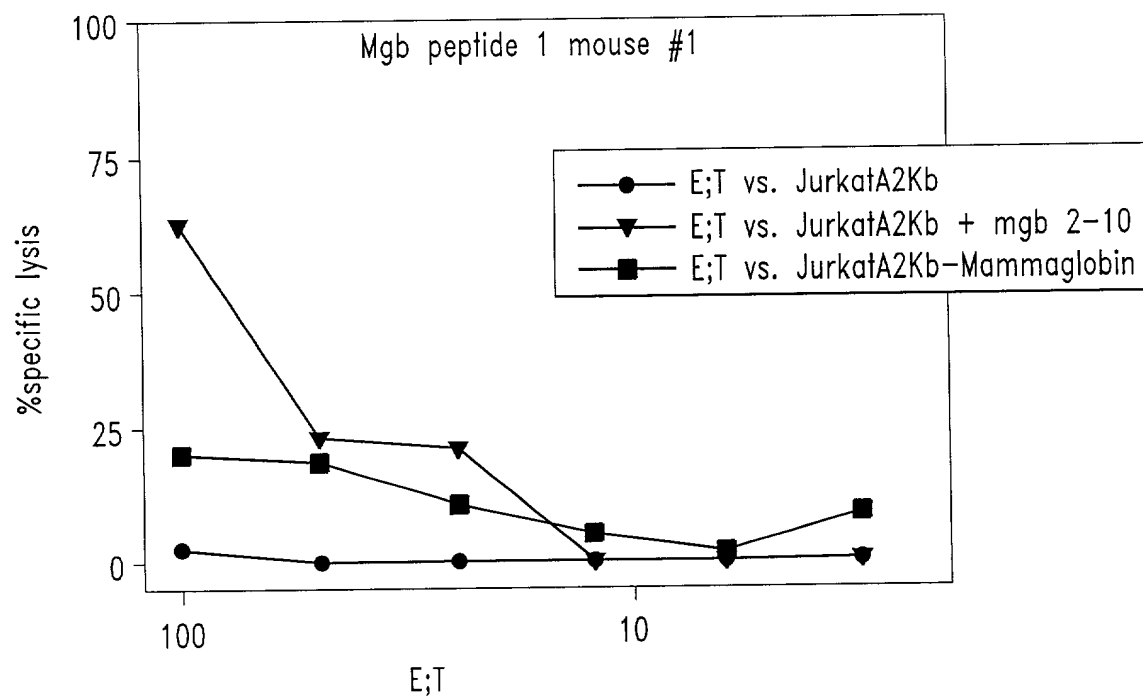


Fig. 14A

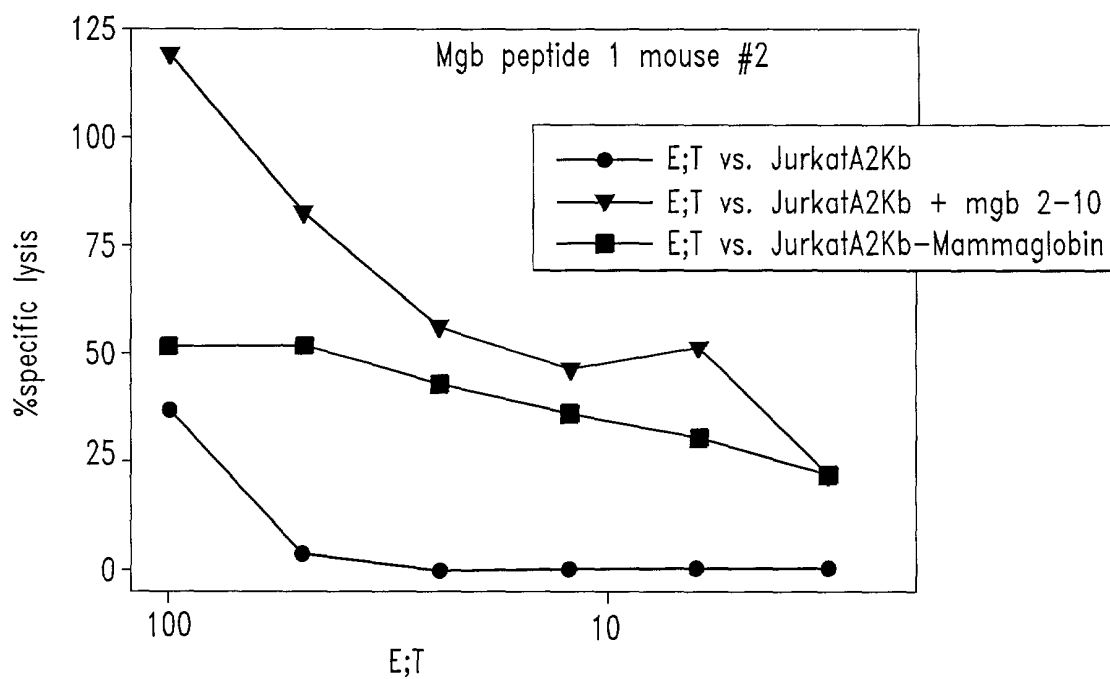


Fig. 14B

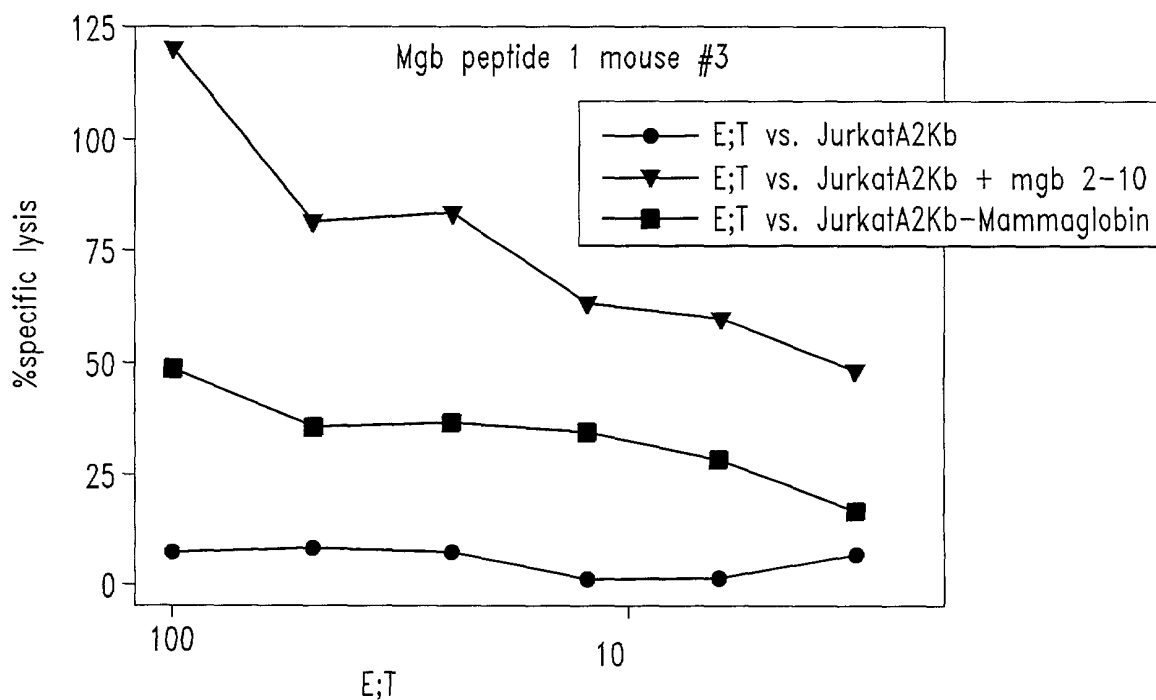


Fig. 14C

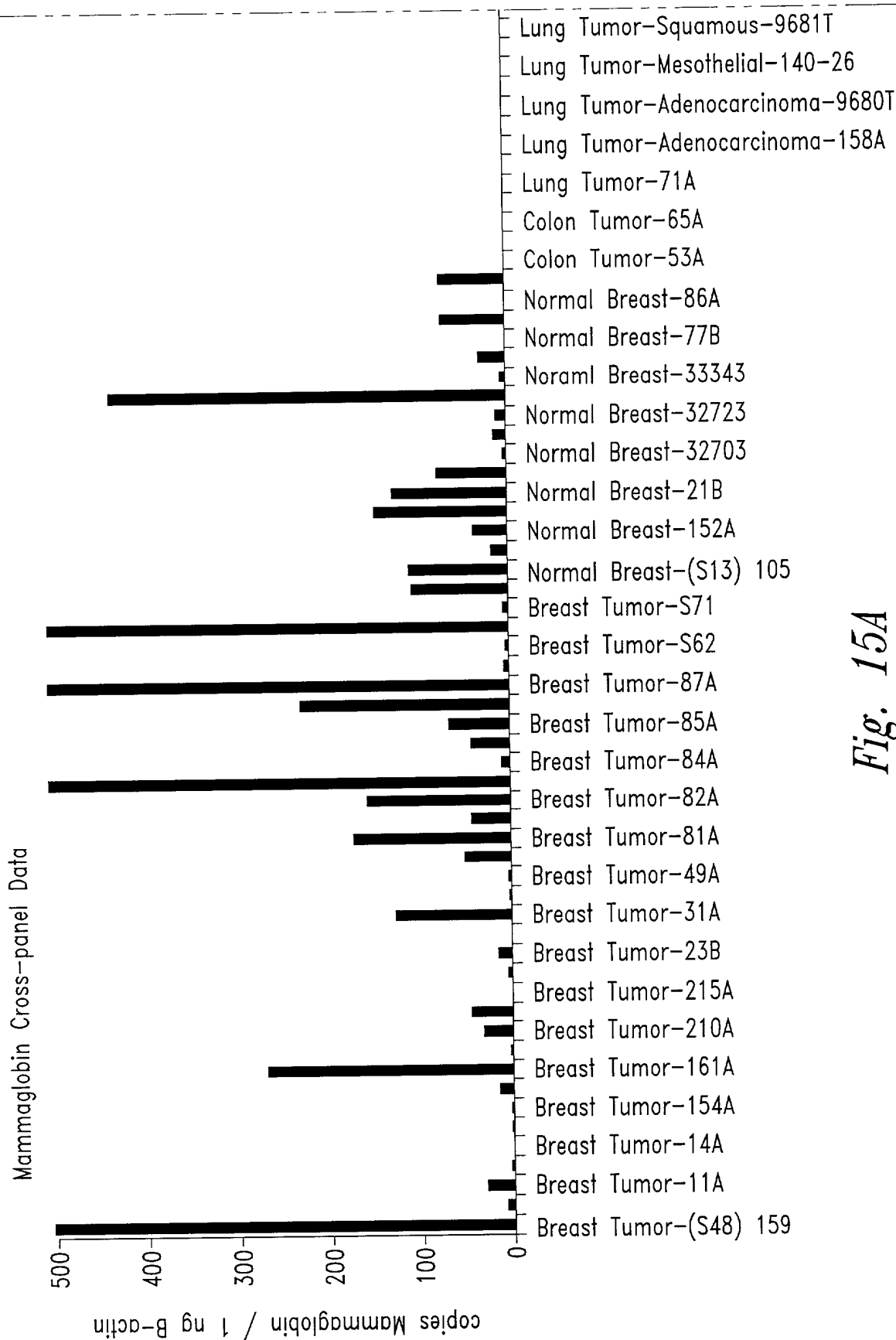


Fig. 15A

Normal Testes-4C
Normal Stomach-73A
Normal Stomach-137A
Normal Stomach-137A
Normal Small Intestine-66B
Normal Skin-138A
Normal Skin-60A
Normal Skeletal Muscel-128A
Normal Retina-32263
Normal Ovary-93B
Normal Lung-Clontech
Normal Lung-58A
Normal Lung-51C
Normal Liver-56A
Normal Liver-136A
Normal Kidney-69A
Normal Kidney-119A
Normal Esophagus-1375
Normal Colon-50B
Normal Brain-Clontech
Normal Brain-75A
Normal Bone Marrow-74A
Normal Bladder-S9-1
Normal Aorta-1375
Normal Prostate-131A
Normal Prostate-48B
Normal Prostate-45A
Normal Prostate-34C
Normal Prostate-117A
Prostate Tumor-40A
Prostate Tumor-35A
Prostate Tumor-135A
Prostate Tumor-115A
Ovary Tumor-120A
Lung Tumor-Squamous-96A

Normal Testes-4C
Normal Stomach-73A
Normal Stomach-137A
Normal Stomach-137A
Normal Small Intestine-66B
Normal Skin-138A
Normal Skin-60A
Normal Skeletal Muscel-128A
Normal Retina-32263
Normal Ovary-93B
Normal Lung-Clontech
Normal Lung-58A
Normal Lung-51C
Normal Liver-56A
Normal Liver-136A
Normal Kidney-69A
Normal Kidney-119A
Normal Esophagus-1375
Normal Colon-50B
Normal Brain-Clontech
Normal Brain-75A
Normal Bone Marrow-74A
Normal Bladder-S9-1
Normal Aorta-1375
Normal Prostate-131A
Normal Prostate-48B
Normal Prostate-45A
Normal Prostate-34C
Normal Prostate-117A
Prostate Tumor-40A
Prostate Tumor-35A
Prostate Tumor-135A
Prostate Tumor-115A
Ovary Tumor-120A
Lung Tumor-Squamous-96A

MB415 cells versus copy number for
Mammaglobin

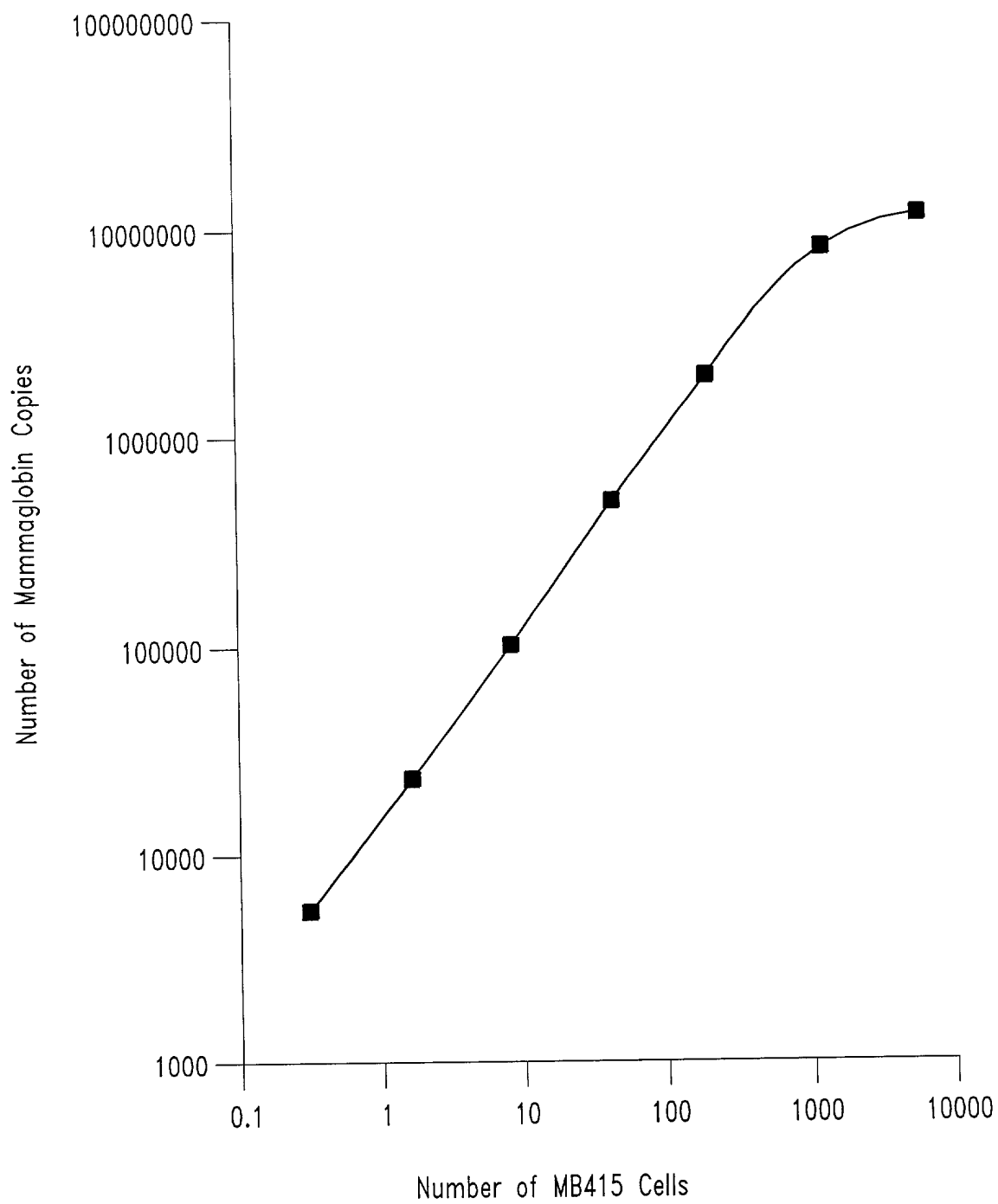


Fig. 16

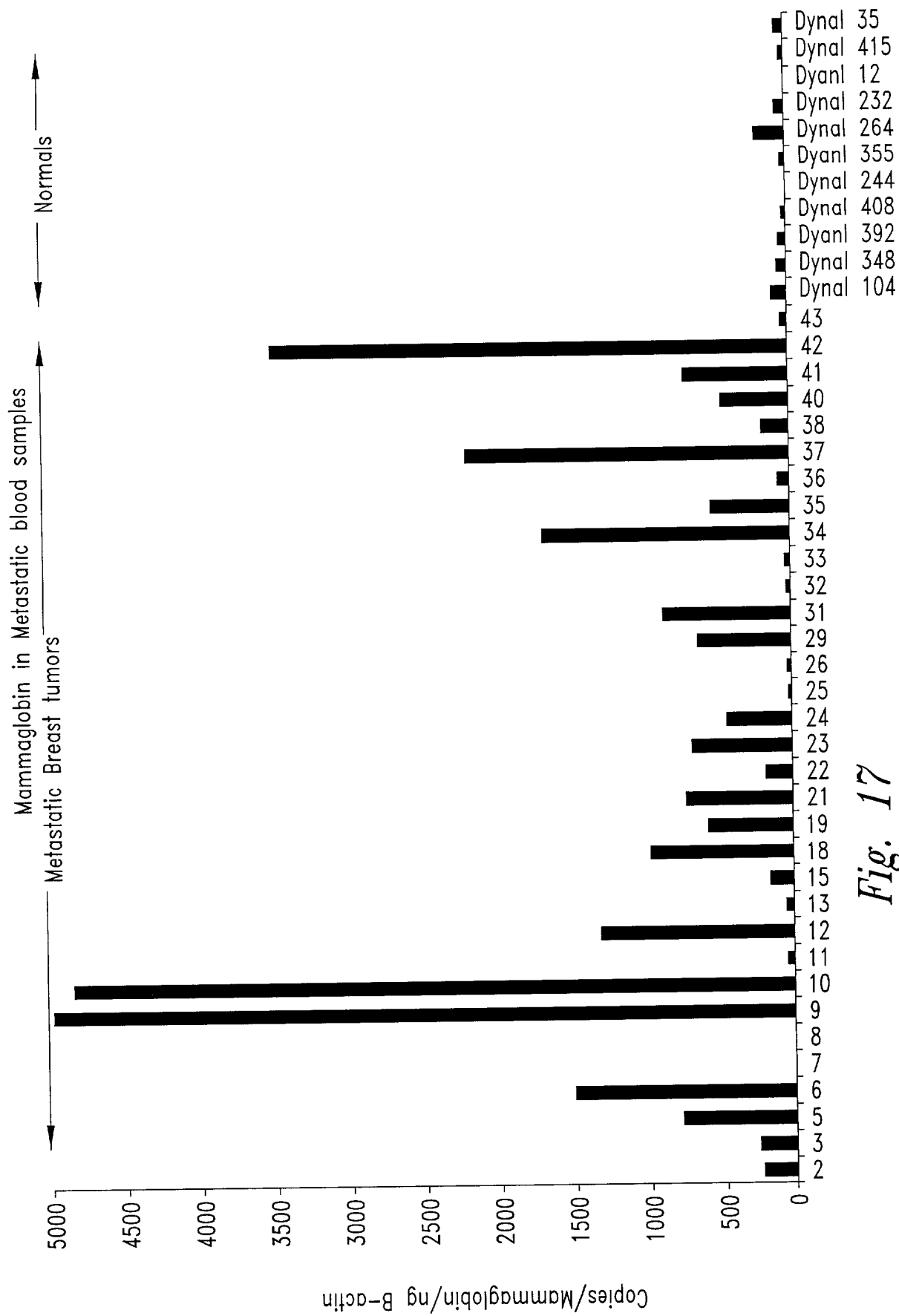


Fig. 17

D117 mgb CD4 proliferation - large assay #2													
line #	name	priming	pcg	media	DMSO	1A-7A	3A	5A	7A	mgb B 5A	Hmammm 10	Hmammm 1	Hmammm 1
1	AB:G9	5A		551	549	5478	454	12599	929	886	5989	1944	1222
2	AB:C11	5A		155	84	13737	159	17250	137	596	18027	14327	4598
3	AB:E7	5A		582	551	7815	198	12876	485	1264	11457	8696	1890
4	AB:H12	5A		1309	1725	18113	965	5850	1264	295	1159	4232	922
5	AB:A7	1A-7A		538	883	15645	4500	112	22045	417	2758	1922	792
6	AB:A9	1A-7A		478	376	6939	396	426	4095	135	416	282	135
7	AB:B8	1A-7A		1802	1602	29047	9277	2828	5838	1177	617	883	2307
8	AB:C9	1A-7A		2142	2258	18814	3168	2836	11835	2954	925	1008	790
9	AB:G7	1A-7A		1553	992	7754	2004	3155	3829	492	5405	3744	2524
10	AB:G9	1A-7A		1607	1577	7583	1489	3487	1752	689	5639	2566	2288
11	AB:H12	1A-7A		3101	2629	23408	24070	2064	8379	2353	15009	5988	2759
12	AB:H4	1A-7A		878	891	16789	574	3658	11797	478	1157	1189	667
13	CD:A4	1A-7A		124	520	20866	21642	805	3049	167	16009	4098	455
14	CD:A5	1A-7A		1439	328	12841	22252	2925	1358	563	4822	883	211
15	CD:C7	1A-7A		76	48	67	86	38	38	40	106	91	79
16	AB:G7	5A		173	477	1073	184	127	489	582	985	543	629
17	AB:H12	5A		948	329	2001	349	1301	266	380	775	1340	355
18	AB:C10	5A		223	181	486	264	341	97	204	340	252	133
19	AB:C11	5A		247	164	22728	148	15534	181	222	20054	21793	8331
20	AB:G6	5A		2125	2048	2408	1618	985	1496	1217	4175	2646	1845
21	AB:G7	5A		91	167	1688	162	2582	93	70	1013	518	178
22	AB:H2	5A		411	720	21053	271	11029	167	220	10420	9317	6009
23	AB:D1	5A		222	608	204	412	276	125	57	1891	1171	741
24	AB:E9	5A		315	457	390	191	1195	177	135	847	286	341
25	AB:G8	1A-7A		485	295	5014	70	2148	48	455	20516	12078	5873
26	AB:H4	1A-7A		545	192	14133	190	891	7519	105	2647	969	578
27	AB:D12	1A-7A		1852	1522	13318	8486	3131	4081	946	20077	11118	8972
28	AB:D1	1A-7A		1448	1614	4205	1199	1186	1822	430	5215	3124	3258
29	AB:H1	1A-7A		5572	3885	18528	14527	1817	13029	1587	11289	4834	1956
30	AB:A7	1A-7A		1072	525	15470	2718	907	12379	230	5261	2080	359
31	AB:B12	1A-7A		640	797	17558	703	15480	669	6354	18054	13983	5575
32	AB:F7	1A-7A		551	455	8374	7694	2462	329	996	2681	2532	941
33	AB:G7	1A-7A		652	710	8278	1018	3753	2841	624	6170	3583	1050
34	CD:C7	1A-7A		109	175	14322	3891	10183	628	76	8439	2217	876
35	CD:D8	1A-7A		824	2270	10285	4280	1681	1314	997	1715	761	710
36	CD:G4	1A-7A		177	72	29912	97	24382	103	54	18285	13873	10861
37	CD:G5	1A-7A		230	152	16874	161	6487	45	103	15208	9892	4354
38	CD:G3	1A-7A		146	178	26356	138	22005	90	96	19394	15188	10128
39	CD:G6	1A-7A		129	84	12775	115	2504	81	80	6922	3365	696
40	CD:C9	1A-7A		2293	2507	8808	3372	2634	3247	2610	3722	2296	1937
41	CD:H10	1A-7A		430	290	29772	308	23992	438	424	20508	22871	7906
42	CD:H11	1A-7A		542	227	24760	324	17835	128	131	16142	15662	10109

FIGURE 19

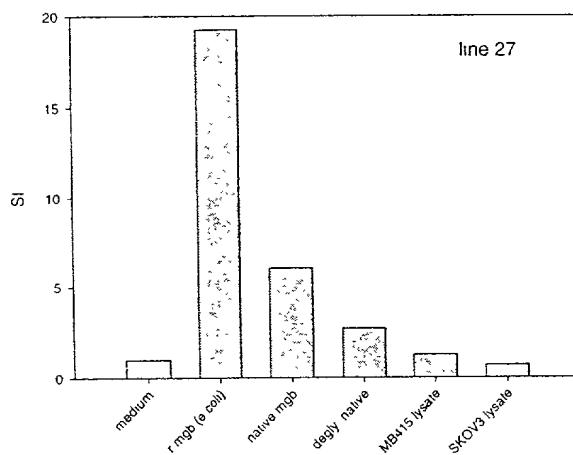
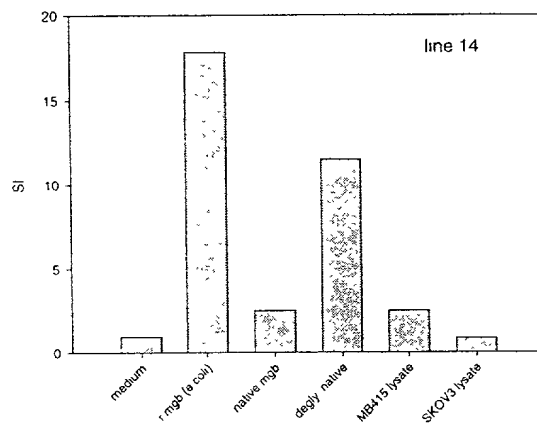
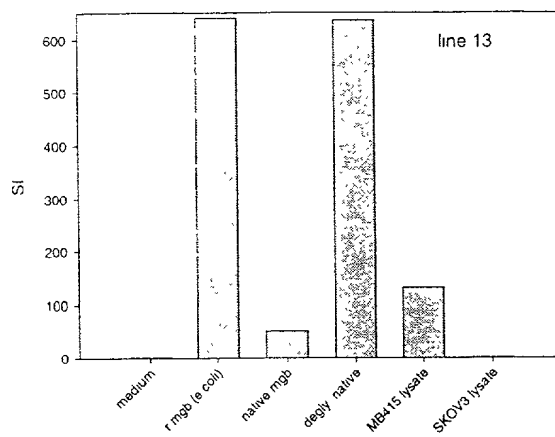


Fig. 20

H ₃ N-	Met	His tag 6aa	Ra12 (short) 30aa	HindIII 2aa	Human mammaglobin (full length) 93aa	-C00
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FIGURE 21

Ra12(s)MammFL pCRX1 Expression Screen

